

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 62102CT-668		FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. PCT/JP2004/010729	International filing date (day/month/year) 28.07.2004	Priority date (day/month/year) 30.07.2003																									
International Patent Classification (IPC) or national classification and IPC D04B15/06																											
Applicant SHIMA SEIKI MANUFACTURING LIMITED																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>10</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																									
Name and mailing address of the IPEA/JP		Authorized officer																									
Facsimile No.		Telephone No.																									

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Box No. I	Basis of the report
1.	<p>With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This report is based on translations from the original language into the following _____ which is the language of a translation furnished for the purposes of:</p> <p><input type="checkbox"/> international search (Rule 12.3 and 23.1(b))</p> <p><input type="checkbox"/> publication of the international application (Rule 12.4)</p> <p><input type="checkbox"/> international preliminary examination (Rule 55.2 and/or 55.3)</p>
2.	<p>With regard to the elements of the international application, this report is based on <i>(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)</i>:</p> <p><input type="checkbox"/> the international application as originally filed/furnished</p> <p><input checked="" type="checkbox"/> the description:</p> <p>pages <u>1-3, 5, 8-18</u> as originally filed/furnished</p> <p>pages* <u>4, 4/1, 6, 7, 7/1</u> received by this Authority on <u>30.05.2005</u></p> <p>pages* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the claims:</p> <p>nos. <u>2-3, 5, 6, 8-10</u> as originally filed/furnished</p> <p>nos.* _____ as amended (together with any statement) under Article 19</p> <p>nos.* <u>1, 4, 7</u> received by this Authority on <u>30.05.2005</u></p> <p>nos.* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the drawings:</p> <p>sheets <u>1-19</u> as originally filed/furnished</p> <p>sheets* _____ received by this Authority on _____</p> <p>sheets* _____ received by this Authority on _____</p> <p><input type="checkbox"/> a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.</p>
3.	<p><input type="checkbox"/> The amendments have resulted in the cancellation of:</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (specify): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</p>
4.	<p><input type="checkbox"/> This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (specify): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</p>

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP 10-25647 A (Tsudakoma Ind. Co., Ltd.), 27
January 1998

Document 2: JP 5-83657 B2 (Shima Seiki Mfg., Ltd.), 29
November 1993

Document 3: JP 3140990 B2 (Shima Seiki Mfg., Ltd.), 5
March 2001

Document 4: JP 3333304 B2 (Shima Seiki Mfg., Ltd.), 15
October 2002

Document 5: JP 7-96740 B2 (Shima Seiki Mfg., Ltd.), 18
October 1995

Document 6: JP 64-6293 B2 (Sipra Patententwicklungs-und
Beteiligungsgesellschaft mbH.), 2 February
1989

Document 7: JP 11-107143 A (Tsudakoma Ind. Co., Ltd.), 20
April 1999

Claims 1 to 3

The invention set forth in claims 1 to 3 does not
involve an inventive step in the light of documents 1 to
3.

Document 1 sets forth a weft knitting machine
wherein a stopper (6) regulates the moved back position
of the driving body (3) which engages with the movable

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sinker (4) and moves the movable sinker (4) backwards and forwards, and the driving body (3) corresponds to the "sinker jack" in the invention set forth in claims 1 to 3. In addition, the stopper (6) regulates the moved back position during the moving back of the driving member (3), and therefore corresponds to the "engaging mechanism which engages in the moved back position the sinker jack which is driven by a driven mechanism so as to be moved back" of the invention set forth in claims 1 to 3 of this application.

Meanwhile, as the support mechanism for the movable sinker, supporting a movable sinker with the recessed portion of a needle plate, and regulating the notch portion provided midway between the end part and base part of the sinker jack with a penetrating member, are known techniques. (See documents 2 and 3, for example. Document 2 sets forth a needle plate (22) having a supporting recessed portion (32). Document 3 indicates that the notched portion between the regulating pieces (39, 41) of the control member for a movable loop forming plate (29) is regulated by a presser bar (35).) It would be easy for a person skilled in the art to apply said known techniques to the weft knitting machine set forth in document 1 and to constitute the notch portion as a groove provided in the interim part to coincide with the shape of the sinker jack in document 1.

In addition, substituting the feature of the engaging mechanism in the invention set forth in document 1 with a penetrating member of a needle plate or a solenoid-driven cam to constitute the invention set forth in claims 2 and 3, would merely be a design change which a person skilled in the art could accomplish as

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necessary.

Claim 4

The invention set forth in claim 4 does not involve an inventive step in the light of documents 3 to 5.

Document 4 sets forth a weft-knitting machine provided with a movable sinker, compound needle, spacer, and yarn guide. In addition, in the light of document 4 (fig. 6), the yarn guide (5) corresponds to the "base portion which is slidably engaged with the groove in a back and forth direction" of the needle spacer (18).

Therefore, comparing the invention set forth in claim 4 and the invention set forth in document 4, in the invention set forth in claim 4, the movable sinker is driven using a sinker jack, and the spacer regulates the sinker jack, while in the invention set forth in document 4, the movable sinker is driven using a sliding cam (13c), and the spacer regulates the sinker, constituting a difference between the two inventions.

However, as a method for supporting and driving a movable sinker, it is known to drive a movable sinker using a sinker jack, and to regulate the sinker jack with a penetrating member provided to a spacer (see documents 3 and 5, for example). It would be easy for a person skilled in the art to employ said known support/driving mechanism as the support/driving mechanism for a movable sinker of a weft-knitting machine as described in document 4. Moreover, constituting the regulation of a sinker jack by a penetrating member as a groove shape provided on an intermediate portion as an alternative to the upper edge of a sinker jack would merely constitute a design feature which a person skilled in the art could

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accomplish as necessary.

Claims 5 and 6

The invention set forth in claims 5 and 6 does not involve an inventive step in the light of documents 3 to 6 for the same reasons as the invention set forth in claim 4.

In the invention set forth in document 4, the protrusion of the yarn guide is regulated by the spacer.

In addition, as set forth in document 6 (see paragraph 6, line 34 to paragraph 8, line 20, section pertaining to the guide protrusion (16) and lateral recess (40)), it is a known technique to provide a ventilation passage to the guide portion of a movable sinker and carry out cleaning.

Claims 7 to 10

The invention set forth in claims 7 to 10 does not involve an inventive step in the light of documents 2, 3 and 7.

Document 7 sets forth a weft knitting machine having a movable sinker (18) and a sinker driving member (30), and in the light of paragraph [0046], both are understood to be engaging mechanisms having gaps in order that they come into contact on one end and have play on the other end.

Meanwhile, as support mechanisms for movable sinkers, supporting movable sinkers in a needle-plate recessed portion and applying a force in one direction by means of a spring; and regulating a notch portion provided in between the end part and base part of a sinker jack with a penetrating member, are known

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techniques. (See documents 2 and 3. Document 2 sets forth a needle plate (22) having a supporting recessed portion (32), and document 3 indicates that a notch between regulating pieces (39, 41) of a control member for a movable loop forming plate (29) is regulated with a presser plate (35).) It would be easy for a person skilled in the art to apply said known techniques to the weft knitting machine set forth in document 7, to constitute the notch as a groove shape provided in the interim section to match the shape of the sinker jack in document 7.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

As a result of the amendments made in accordance with the provisions of PCT Article 34, only one occurrence of "□□□(notched portion)" which originally existed in two places in claims 1, 4 and 7 has been amended to "□(groove)", with the other being left as "□□□(notched portion)", causing an inconsistency.